

1 **(March 13, 1995)**

2 **Testing**

3 The Contractor shall make shotcrete test panels for evaluation of shotcrete
4 quality, strength, and aesthetics. Both preproduction and production test panels,
5 shall be prepared. All cores obtained for the purpose of shotcrete strength testing
6 shall have the following minimum dimensions:

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- 8 a. The core diameter shall be at least 3 times the maximum aggregate size,
9 but not less than 50 millimeters.
- 10
- 11 b. The core height shall be a minimum of 1.5 times the core diameter.
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13 The cores will be obtained and tested in accordance with AASHTO T 24. Cores
14 removed from the panel shall be immediately wrapped in wet burlap and sealed in
15 a plastic bag. Cores shall be clearly marked to identify from where they were
16 taken and whether they are for pre-production or production testing. If for
17 production testing, the section of the wall represented by the cores shall be clearly
18 marked on the cores. Cores shall be delivered to the Engineer within 2 hours of
19 coring. The remainder of the panels shall remain the property of the Contractor.

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21 **Pre-production Testing**

22 At least one 915 by 915 millimeter panel for each mix design shall be
23 prepared for evaluation and testing of the shotcrete quality and strength. One
24 1220 by 1220 millimeter qualification panel shall be prepared for evaluation
25 and approval of the proposed method for shotcrete installation, finishing, and
26 curing. Both the 915 millimeter and the 1220 millimeter panels shall be
27 constructed using the same methods and initial curing proposed to construct
28 the shotcrete wall, except that the 915 millimeter panel shall not include wire
29 reinforcement. The 915 millimeter panel shall be constructed to the minimum
30 thickness necessary to obtain the required core samples. The 1220
31 millimeter panel shall be constructed to the same thickness as proposed for
32 the wall face. Production shotcrete work shall not begin until satisfactory test
33 results are obtained and the panels are approved by the Engineer.

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35 **Production Testing**

36 The Contractor shall make at least one 915 by 915 millimeter panel for each
37 section of wall shot, or as many as directed by the Engineer. A section is
38 defined as one day's placement. The production panels shall be constructed
39 using the same methods and initial curing used to construct the shotcrete
40 wall, but without wire reinforcement. The panels shall be constructed to the
41 minimum thickness necessary to obtain the required core samples. If the
42 production shotcrete is found to be unsuitable based on the results of the test
43 panels, the section(s) of the wall represented by the test panel(s) shall be
44 repaired or replaced to the satisfaction of the Engineer at no cost to the
45 Contracting Agency.